

WHAT IS CLAIMED IS:

1. A method for purifying contaminated sulfuryl fluoride containing at least one contaminant selected from the group consisting of hydrogen fluoride, hydrogen chloride, sulfur dioxide and organic impurities, said method comprising contacting the contaminated sulfuryl fluoride with an alkali metal fluoride and recovering a purified sulfuryl fluoride.
2. A method according to claim 1, wherein the contaminated sulfuryl fluoride contains hydrogen fluoride, hydrogen chloride and sulfur dioxide.
3. A method according to claim 1, wherein the contaminated sulfuryl fluoride contains dichloroethane.
4. A method according to claim 1, wherein the contacting with an alkali metal fluoride is carried out at a temperature ranging from -20°C to 150°C .
5. A method according to claim 4, wherein the contacting is carried out at a temperature ranging from 0°C to 30°C .
6. A method according to claim 1, wherein the method is carried out immediately after synthesis of the contaminated sulfuryl fluoride.
7. A method according to claim 1, wherein the method is carried out immediately prior to or during use of the purified sulfuryl fluoride.
8. A method according to claim 1, further comprising regenerating used alkali metal fluoride laden with said at least one contaminant removed from the sulfuryl fluoride.

9. A method according to claim 1, wherein the alkali metal fluoride comprises potassium fluoride.

10. A sorbent kit comprising separate portions of an alkali metal fluoride and at least one adsorbent selected from the group consisting of activated carbon, silica gel and zeolites.